

## DIVERSLEY ROUTED FAULT TOLERANT OPTICAL NODE

### ABSTRACT OF THE DISCLOSURE

A hybrid fiber-coaxial network system with a fault tolerant multi-port optical node implementing a redundant diversely routed high-bandwidth single path. The system includes a plurality of fiber optic and coaxial paths. In the downstream path, the analog and digital data signals are sent from the head-end of the network to a subscriber of the data over the primary and secondary fiber paths of the network. A redundantly powered multi-port optical node, receives the signals. Electronic modules of the optical node convert the optical signals to RF signals and transmit the signals via a primary and secondary coaxial path to the subscriber. In the upstream path, the data signals are transmitted from the subscriber to the node over the coaxial data paths. Electronic modules of the optical node convert the RF signals to optical signals and transmit the signals over the primary and secondary fiber paths of the network.

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